STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET
STATE PLANNING COORDINATION

January 24, 2006

Zachary Crouch
Davis, Bowen, & Friedel, Inc.
23 North Walnut Street
Milford, DE 19963

RE: PLUS review – PLUS 2005-12-07; Winterberry Woods

Dear Mr. Crouch:

Thank you for meeting with State agency planners on January 4, 2006 to discuss the proposed plans for the Winterberry Woods project to be located at Almshouse and Thicket Roads. According to the information received, you are seeking site plan approval for 162 residential units on 166.28 acres. This proposal is located in Investment Level 4 according to the Strategies for State Policies and Spending, and is outside the growth zone according to the Kent County Comprehensive Plan. **The comments in this letter are technical, and are not intended to suggest that the State supports this development proposal. This letter does not in any way suggest or imply that you may receive or may be entitled to permits or other approvals necessary to construct the development you indicate or any subdivision thereof on these lands.**

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Kent County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.

The following are a complete list of comments received by State agencies:

Office of State Planning Coordination – Contact: David Edgell 739-3090

This project represents a major land development that will result in 162 residential units in an Investment Level 4 area according to the *2004 Strategies for State Policies and Spending*. This project is also located outside the growth zone according to Kent County's certified comprehensive plan. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4. These areas are comprised of prime agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State's fiscal resources. The project as proposed is likely to bring more than 423 new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100 percent of school transportation and paratransit services, up to 80% of school construction costs, and the cost of police protection in the unincorporated portion of Kent County where this development is proposed. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

Because the development is inconsistent with the Strategies for State Policies and Spending, the State is opposed to this proposed subdivision.

At the PLUS meeting the applicants mentioned that they were pursuing a public sewer through the Camden and Wyoming Sewer and Water Authority. Please be advised that this project was reviewed with a proposed community wastewater system. **A new PLUS review may be required should the applicants decide to extend public sewer to this site. Please contact our office as soon as a decision regarding the method of wastewater disposal for this site has been determined.**

There is a well known correlation between the extension of physical infrastructure such as public sewer and land development activity. We are concerned that the developer and the Camden and Wyoming Sewer and Water Authority will be creating a de-facto growth zone in a Level 4 area with any sewer extension. All properties within a reasonable

distance from this new infrastructure will be more likely to convert to suburban uses because of the availability of the sewer service, in spite of the fact that State and County plans intend this to remain a predominantly rural area. At this time the Office of State Planning Coordination would like to note our opposition to any extension of public sewer in this Level 4 area. Public sewer represents physical infrastructure that is appropriate inside growth zones, in investment Levels 1, 2 and 3. These are areas where both the local and state governments intend to provide the necessary utilities and services to support suburban, urban and other types of land development and population growth.

We strongly encourage the applicants, the Camden and Wyoming Sewer and Water Authority, and the County to delay any decision on extending public sewer to this site until the County has completed their updated comprehensive plan (due by March 2007). It is imperative that the decision to install physical infrastructure in a rural area be made in the context of a comprehensive planning process. Local citizens, elected leaders, service providers and state agencies all must be engaged in any decision of this magnitude.

Division of Historic and Cultural Affairs – Contact: Alice Guerrant 739-5685

The project has the potential to impact cultural resources and therefore, the Division of Historical and Cultural Affairs recommends the property owner/developer consider undertaking a cultural resource study of the project area before proceeding. Both marked and unmarked burials are protected by Delaware law. Please refer to the following sections of the Delaware State Code: (1) Title 11 Sub-Chapter 1340, titled "Desecration of Burial Places"; and (2) Title 7 Chapter 54, known as the "Delaware Unmarked Human Remains Act". For more information about these laws and the implications for the project, contact Craig Lukesic or Faye Stocum of this office at 302-736-7400. The Division provides a list of qualified consultants on our web site at http://www.state.de.us/shpo/PDF/Consultants.pdf.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

This development is proposed for an area designated as Level 4 under the *Strategies for State Policies and Spending*. The *Strategies for State Policies and Spending* have deemed the type of development being proposed inappropriate for this area. As part of our commitment to support the *Strategies,* DelDOT refrains from participating in the cost of any road improvements needed to support this development and is opposed to any road improvements that will substantially increase the transportation system capacity in this area. DelDOT will only support taking the steps necessary to preserve the existing transportation infrastructure and make whatever safety and drainage related improvements are deemed appropriate and necessary. The intent is to preserve the open

space, agricultural lands, natural habitats and forestlands that are typically found in Level 4 Areas while avoiding the creation of isolated development areas that cannot be served effectively or efficiently by public transportation, emergency responders, and other public services.

DelDOT strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in approved Comprehensive Plans. We encourage the use of transfer of development rights where this growth management tool is available.

If this development proposal is approved, notwithstanding inconsistencies with the relevant plans and policies, DelDOT will provide technical review and comments.

The Department of Natural Resources and Environmental Control – Contact: Kevin Coyle 739-9071

Investment Level 4 Policy Statement

This project is proposed for an Investment Level 4 area as defined by the *Strategies for State Policies and Spending* and is also located outside of a designated growth area in the relevant municipal and county certified comprehensive plans. According to the *Strategies* this project is inappropriate in this location. In Investment Level 4 areas, the State's investments and policies, from DNREC's perspective, should retain the rural landscape and preserve open spaces and farmlands. Open space investments should emphasize the protection of critical natural habitat and wildlife to support a diversity of species, and the protection of present and future water supplies. Open space investments should also provide for recreational activities, while helping to define growth areas. Additional state investments in water and wastewater systems should be limited to existing or imminent public health, safety or environmental risks only, with little provision for additional capacity to accommodate further development.

With continued development in Investment Level 4 areas, the State will have a difficult, if not impossible, time attaining water quality (e.g., TMDLs) and air quality (e.g., non-attainment areas for ozone and fine particulates) goals. Present and future investments in green infrastructure, as defined in Governor Minner's Executive Order No. 61, will be threatened. DNREC strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in certified Comprehensive Plans. We encourage the use of transfer of development rights where this growth management tool is available.

This particular development certainly compromises the integrity of the State Strategies and the preservation goals inherent in many of DNREC's programs. Of particular concern are: the loss/fragmentation of 6 out of 28 acres of forest, potential impacts to rare species, and the project's location in an excellent recharge area. While mitigating measures such as conservation design, central wastewater systems instead of individual on-site septic systems, and other best management practices may help mitigate impacts from this project, not doing the project at all is the best avenue for avoiding negative impacts. As such, this project will receive no financial, technical or other support of any kind from DNREC. Any required permits or other authorizations for this project shall be considered in light of the project's conflict with our State growth strategies.

Design Recommendation

Efforts should be made to conserve the forest. Therefore, lots 20-25 should be removed in their entirety from the forested area. This would include re-routing the road to those properties and removing Jean Drive. Selective tree removal should occur around lots 45-51. Lots 6, 30, 31, 91, 145, 111, 112, 106, 107, 102, and 103 should have a buffer between them and the existing drainage ditch. The existing drainage ditch is shown as a blue line stream and labeled as Allabands Mill Stream.

Wastewater

There are three steps required to obtain a permit to install a community wastewater system. The engineering firm must complete two detailed technical reports, the Soil Investigation Report and the Preliminary Groundwater Impact Assessment Report. Both of these reports must be reviewed and approved by DNREC before the applicant is allowed to submit a formal permit application. The permit application includes all of the engineering details required to construct the system, and constitutes the third and final step.

The applicants have not submitted either the Soil Investigation Report or the Preliminary Groundwater Impact Assessment to date, and as such have not complied with the required prerequisites which will allow them to submit a permit application to DNREC for a community wastewater system.

Soils

Based on Kent County soil survey mapping Sassafras, Woodstown, Fallsington, and Pocomoke were mapped on subject parcel. Sassafras is a well-drained upland soil that, generally, has few limitations for development. Woodstown is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Fallsington is a

poorly-drained wetland associated (hydric) soil that has severe limitations for development. Pocomoke is a poorly-drained wetland associated (hydric) soil that has the highest severity level for development.

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine wetlands on this parcel.

These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Although the developer maintains a 100-foot buffer from Spring Branch an additional 100-foot vegetated buffer should be implemented from the edge of the wetland complex. The developer should note that both DNREC and Army Corps of Engineers discourage allowing lot lines to contain wetlands to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

It is recommended that the Farm Services Agency of the USDA be contacted to assess whether the farmed wetlands on subject parcel meet the recognized criteria for classification as "prior converted wetlands." Prior converted wetlands are farmed wetlands that have drained or altered before December 23, 1985, and no longer meet the wetland criteria established under the 404 program. Such wetlands are considered exempt from regulatory protection provided that there is no proof of a continuous "fallow period" of five years or greater in that parcel's cropping history. Parcels converted after said date regardless of cropping history are considered jurisdictional by the Army Corps of Engineers (ACOE). The contact person for assessing a parcel's cropping history is Sally Griffin at the USDA; she can be reached at 678-4182.

This project is located directly adjacent to sensitive headwater or near headwater riparian wetlands associated with the Allabands Mill Stream of the of the St. Jones watershed, greatly increasing the probability of harmful impacts to surface and groundwater quality of all waters within the greater Delaware Basin, and making it more difficult for the State to achieve future required TMDL nutrient reductions. Headwater streams and their associated wetlands are important for the protection of water quality and the maintenance/integrity of the ecological functions throughout the length of the stream, including the floodplain system downstream. Therefore, in recognition of this concern, the Watershed Assessment Section strongly recommends the applicant consider expanding the existing forested buffer with native woody or herbaceous vegetation to a minimum 100-foot width (assuming a remnant buffer exists).

Wetland Permitting Information

PLUS application materials indicate that wetlands have been delineated (presumably a field delineation). This delineation should be verified by the Army Corps of Engineers through the Jurisdictional Determination process. Please note that impacts to palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In situations where the applicant believes that the delineated wetlands on their parcel are nonjurisdictional isolated wetlands, the Corps must be contacted to make the final jurisdictional assessment. They can be reached by phone at 736-9763.

In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process.

Site plans indicate that structures will impact a blue-line stream (Allabands Mill Stream). Impacts to streams and associated riparian wetlands are regulated by the Subaqueous Land Section from DNREC Division of Water Resources and the Army Corps of Engineers.

To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-9943 to schedule a meeting.

Impervious Cover

Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline below their predevelopment level. Based on information compiled by the University of Delaware through analysis of 2002 aerial photography, the St. Jones and Choptank watersheds have about 16.2 and 5.6 percent impervious cover, respectively. Since the amount of imperviousness generated by this project will likely be well over this 10 percent watershed threshold, the applicant is strongly advised to pursue best management practices (BMPs) that mitigate or reduce some of its predictable impacts. Moreover, increases in a watershed's surface imperviousness have been shown to reflect proportional decreases in water and habitat quality when this threshold is exceeded. Reducing the amount of surface imperviousness through the use of pervious paving materials ("pervious pavers") in lieu of asphalt or concrete in conjunction with additional native tree and shrub plantings - are examples of practical BMPs that could easily be implemented to reduce surface imperviousness.

Based on a review of the submitted PLUS application, the applicant projects that only about 21% of this parcel will be rendered impervious following this parcel's development; however, given the scope and density of this project, this figures appears to be an underestimate. The applicant should be made aware that all forms of constructed surface imperviousness (i.e., rooftops, sidewalks and roads) should be included in the impervious surface calculation; otherwise, an inaccurate assessment of this project's actual environmental impacts will be made. It is strongly advised, therefore, that the applicant recalculate this project's surface imperviousness in a way that considers all forms of constructed imperviousness.

TMDLs

A Total Maximum Daily Load (TMDL) is the maximum level of pollution for which a water quality limited water body can assimilate without compromising use and recreational goals such as swimming, fishing, drinking water, and shell fish harvesting. This project is located within both the St. Jones and the Choptank River watersheds. In the St. Jones Watershed, TMDLs have not yet been developed, but should be completed by December 2006; however, it is still likely that up-and-coming TMDLs for this watershed will be finalized and approved before this project is formerly reviewed by the County. The Choptank watershed, in contrast, will require a 40 percent post-development reduction in phosphorus to meet the TMDL. Compliance with the post-development TMDL nutrient loading reduction requirements will be assessed via nutrient budget protocol, a computer-based model that quantifies post-development nutrient loading under a variety of land use scenarios in combination with a variety (or absence) of BMP types and intensities. This post-development loading rate is then compared with the pre-development loading rate as a means to assess whether the project meets the acceptable TMDL reduction levels. Since impervious cover is an important variable for assessing the environmental impacts from nutrient runoff, the applicant, as mentioned previously, should recalculate the projected surface imperviousness using a more comprehensive approach. All forms of created surface imperviousness (rooftops, sidewalks, and roads) should be considered when calculating surface imperviousness; otherwise the nutrient budget protocol will not reflect the project's true environmental impacts. Because it likely that the most restrictive watershed TMDLs will be required and implemented for this project, it is strongly advised that the applicant be proactive and employ best management practices (BMPs) as methodological mitigative strategies to reduce the likely degradative impacts associated with this development. Reducing imperviousness, preservation and/or planting trees, and maintaining at least a 100-foot upland buffer from all streams and wetlands are some examples of mitigative strategies to reduce nutrient runoff impacts from this development. Although a TMDL has been developed for the Choptank watershed, the accompanying nutrient budget protocol has not been completed

to date. It is strongly recommended that the applicant keep in touch with our office and obtain this protocol as soon as possible. When the model is acquired, we then suggest the applicant verify their project's compliance (using the corrected impervious cover figure) by running the model themselves. Please contact Lyle Jones of Watershed Section at 739-9939 for the acceptable model protocol.

Water Resource Protection Areas

A portion of the site falls within an excellent recharge area (see attached map).

According to the State law that created the Source Water Protection Program, county and municipal governments with more than 2,000 residents will be required to enact ordinances to protect Water Resource Protection Areas. Municipalities with fewer than 2,000 residents are encouraged to enact such ordinances. The following language has been excerpted from the Source Water Protection Guidance Manual for Local Governments, Supplement 1 - Ground-Water Recharge Design Methodology. While the local ordinances may not yet be in place, the developer may find the language useful in modifying the site plan to protect water resources.

Water Resource Protection Areas (WRPAs) are defined as (1) surface water areas such as floodplains, limestone aquifers, and reservoir watersheds, (2) wellhead areas, or (3) excellent recharge areas. The purpose of an impervious cover threshold is to minimize loss of recharge and protect the quality and quantity of ground and surface water supplies in WRPAs.

New development in WRPAs may exceed the 20% impervious cover threshold, but be no more than 50% impervious, provided the applicant submits an environmental assessment report recommending a climatic water budget and facilities to augment recharge. The environmental assessment must document that post-development recharge will be no less than predevelopment recharge when computed on an annual basis.

Commonly, the applicant offsets the loss of recharge due to impervious cover by constructing recharge basins that convey relatively pure rooftop runoff for infiltration to ground water.

The Department recommends the following (ranked in order of preference):

1) Preserve WRPAs as open space and parks by acquisition or conservation easement.
2) Limit impervious cover of new development to 20% by right within WRPAs.

3) Allow impervious cover of new development to exceed 20% within WRPAs (but no more than 50% impervious) provided the applicant develops recharge facilities that directly infiltrate rooftop runoff.
4) Allow impervious cover of new development to exceed 20% within WRPAs (but no more than 50% impervious) provided the applicant develops recharge facilities that infiltrate stormwater runoff from forested and/or grassed surfaces with pretreatment.

For more information, refer to:

Source Water Protection Guidance Manual for the Local Governments of Delaware at http://www.wr.udel.edu/swaphome/phase2/SWPguidancemanual.html
and
Ground-Water Recharge Design Methodology at http://www.wr.udel.edu/swaphome/phase2/Publications/swapp_manual_final/swapp_guidance_manual_supp_1_2005_05_02.pdf

Water Supply

The information provided indicates that Tidewater Utilities will provide water to the proposed projects through a central public water system. Our files reflect that Tidewater Utilities does not currently hold a certificate of public convenience and necessity (CPCN) to provide public water in these areas. They will need to file an application for a CPCN with the Public Service Commission, if they have not done so already. Information on CPCN requirements and applications can be obtained by contacting the Public Service Commission at 302-739-4247. Should an on-site public well be needed, it must be located at least 150 feet from the outermost boundaries of the project. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule.

Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-9944.

Sediment and Erosion Control/Stormwater Management

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. The plan review and approval as well as construction inspection will be coordinated through Kent Conservation District. Contact Jared Adkins, Program Manager, at (302) 741-2600, ext. 3, for details regarding submittal requirements and fees.

A Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity must be submitted to DNREC Division of Soil and Water Conservation along with the $195 NOI fee prior to plan approval.

Applying practices to mimic the pre-development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance on structural stormwater components, such as maintaining open spaces, should be considered in the overall design of the project as a stormwater management technique. Green Technology BMPs must be given first consideration for stormwater quality management. Each stormwater management facility should have an adequate outlet for release of stormwater.

It is strongly recommended that you contact the reviewing agency to schedule a preliminary meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion.

Drainage

There are existing drainage concerns downstream of this project.

The Drainage Program requests the engineer take precautions to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage

problems downstream by the release of on site storm water. The Drainage Program requests the engineer check downstream ditches and pipes for function and blockages prior to construction. Please notify downstream landowners if there will be a change in the volume of water released on them.

The Drainage Program encourages the elevation of rear yards to direct water towards the streets where storm drains are accessible for maintenance. The Drainage Program recognizes the need for catch basins in rear yards in certain cases. Catch basins placed in rear yards will need to be clear of obstructions and be accessible for maintenance. Decks, sheds, fences, and kennels should not be placed along the storm drain or near the catch basin. Deed restrictions or easements recorded on the deed, should be placed on the property to ensure maintenance access.

A portion of this project is located within the Willow Grove Tax Ditch. Please contact the Kent Conservation District and the Willow Grove Tax Ditch about established tax ditch right of ways.

For the further enhancement of water quality in the Wyoming Lake watershed, the Drainage Program encourages additional widths of vegetated buffers and other water quality measures on this project. Please explore the use of a created wetland to filter excess nutrients in stormwater runoff from this site before releasing stormwater into Allabands Mill Stream.

Open Space

To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that lot lines and other infrastructure (such as storm water management ponds) be pulled out of the forest and that areas of community open space be designated along the forested areas. Doing so will preserve and expand the existing buffers on site and its value for birds and wildlife and it will create recreational opportunities for residents.

In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type grasses. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces.

Open space containing forest and/or wetlands should be placed into a permanent conservation easement or other permanent protection mechanism. Conservation areas should also be demarked to avoid infringement by homeowners.

Rare Species and Forest Preservation

DNREC has not surveyed this parcel; however, Barred Owl (Strix varia) occurs on an adjacent parcel and may occur within the project area as well. This rare bird requires mature deciduous or mixed palustrine forested wetlands, such as those on the site. Breeding occurs January 15th to August 31st and this species is of special concern in Delaware. In addition, rough green snake (Opheodrys aestivus) occurs both north and west of the project site and may occur within the project area as well. This rare reptile inhabits deciduous and mixed forests especially those with ponds, streams, or wetlands. Egg laying and hatching of young occurs late May to early October.

Without surveys to determine presence of rare species, we recommend that the site plan be changed and that the lots and infrastructure be removed from the wooded area. The forest within the project area is also part of a larger forest block and forest fragmentation separates wildlife populations and increases "edge effects" that leave many forest dwelling species vulnerable to predation and allows the infiltration of invasive species. When forests are cleared, wildlife must disperse into surrounding areas which can lead to human/animal conflicts, including interactions on the roadways. This also puts pressure on nearby Wildlife Areas and other preserved lands.

If clearing occurs despite this recommendation, it should not occur January 15th to October 1st to avoid impacting nests and young.

Nuisance Waterfowl

Stormwater management ponds may attract waterfowl like resident Canada geese and mute swans. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured lawns around ponds provide an attractive habitat for these species. We recommend native plantings of tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area (50 feet) around the perimeter. Waterfowl do not feel safe when they can not see the surrounding area for possible predators. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals).

Solutions can be costly and labor intensive; however, with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

Solid Waste

Each Delaware household generates approximately 3,600 pounds of solid waste per year. On average, each new house constructed generates an additional 10,000 pounds of construction waste. Due to Delaware's present rate of growth and the impact that growth will have on the state's existing landfill capacity, the applicant is requested to be aware of the impact this project will have on the State's limited landfill resources and, to the extent possible, take steps to minimize the amount of construction waste associated with this development.

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 12.4 tons (24,865.3 pounds) per year of VOC (volatile organic compounds), 10.3 tons (20,586.8 pounds) per year of NOx (nitrogen oxides), 7.6 tons (15,189.3 pounds) per year of SO2 (sulfur dioxide), 0.7 ton (1,352.1 pounds) per year of fine particulates and 1,040.0 tons (2,079,951.5 pounds) per year of CO2 (carbon dioxide).

However, because this project is in a level 4 area, mobile emission calculations should be increased by 118 pounds for VOC emissions for each mile outside the designated growth areas per household unit; by 154 pounds for NOx; and by 2 pounds for particulate emissions. A typical development of 100 units that is planned 10 miles outside the growth areas will have additional 59 tons per year of VOC emissions, 77 tons per year of NOx emissions and 1 ton per year of particulate emissions versus the same development built in a growth area (level 1, 2 or 3).

Emissions from area sources associated with this project are estimated to be 5.0 tons (10,029.3 pounds) per year of VOC (volatile organic compounds), 0.6 ton (1,103.5 pounds) per year of NOx (nitrogen oxides), 0.5 ton (915.8 pounds) per year of SO2 (sulfur dioxide), 0.6 ton (1,181.8 pounds) per year of fine particulates and 20.3 tons (40,656.6 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 2.0 tons (3,974.9 pounds) per year of NOx (nitrogen oxides), 6.9 tons (13,825.7 pounds) per year of SO2 (sulfur dioxide) and 1,019.6 tons (2,039,294.9 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO_2	$PM_{2.5}$	CO_2

Mobile	12.4	10.3	7.6	0.7	1040.0
Residential	5.0	0.6	0.5	0.6	20.3
Electrical Power		2.0	6.9		1019.6
TOTAL	17.4	12.9	15.0	1.3	2079.9

A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, http://www.energystar.gov/:

"ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of:

building envelope upgrades,
high performance windows,
controlled air infiltration,
upgraded heating and air conditioning systems,
tight duct systems and
upgraded water-heating equipment."

The Energy office in DNREC is in the process of training builders in making their structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. They highly recommend this project development and other residential proposals increase the energy efficiency of their homes.

They also recommend that the home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for their new occupants.

State Fire Marshal's Office – Contact: John Rossiter 739-4394

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal's Office. At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting

the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation:

a. **Fire Protection Water Requirements**:
- Where a water distribution system is proposed for single family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required.
- The infrastructure for fire protection water shall be provided, including the size of water mains.

b. **Accessibility:**
- All premises which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Almhouse Road and Thicket Road must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

c. **Gas Piping and System Information:**
- Provide type of fuel proposed, and show locations of bulk containers on plan.

d. **Required Notes**:

- Provide a note on the final plans submitted for review to read " All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations"
- Name of Water Supplier
- Proposed Use
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.delawarestatefiremarshal.com, technical services link, plan review, applications or brochures.

Department of Agriculture - Contact: Milton Melendez 698-4500

The proposed development is in an area designated as Level 4 under the *Strategies for State Policies and Spending*. The *Strategies* and the Kent County Comprehensive Plan do not support this type of isolated development in this area. The intent of these plans is to preserve the agricultural lands, forestlands, recreational uses, and open spaces that are preferred uses in Level 4 areas. The Department of Agriculture opposes the proposed development, which conflicts with the preferred land uses, making it more difficult for agriculture and forestry to succeed, and increases the cost to the public for services and facilities.

More importantly, the Department of Agriculture opposes this project because it negatively impacts those land uses that are the backbone of Delaware's resource industries - agriculture, forestry, horticulture - and the related industries they support. Often new residents of developments like this one, with little understanding or appreciation for modern agriculture and forestry, find their own lifestyles in direct conflict with the demands of these industries. Often these conflicts result in compromised health and safety; one example being decreased highway safety with farm equipment and cars competing on rural roads. The crucial economic, environmental and open space benefits of agriculture and forestry are compromised by such development. We oppose the creation of isolated development areas that are inefficient in terms of the full range of public facilities and services funded with public dollars. Public investments in areas such as this are best directed to agricultural and forestry preservation. This site is also a designated as a "Good Recharge" area, meaning that the area has valuable ground water recharge qualities. In addition, this site overlaps with the State's Green Infrastructure Investment Strategy Plan. The Cropland layer is present in this site; this designation identifies areas that possess unique natural features that are valuable for preservation.

The Delaware Department of Agriculture supports growth which expands and builds on existing urban areas and growth zones in approved State, county and local plans. Where additional land preservation can occur through the use of transfer of development rights, and other land use measures, we will support these efforts and work with developers to implement these measures. If this project is approved we will work with the developers to minimize impacts to the agricultural and forestry industries.

This site is a part of a "good recharge" area. DNREC has mapped all ground water potential recharge areas. A "good" rating is the second highest rating and designates an area as having important groundwater recharge qualities. Maintaining pervious cover in "Excellent" and "Good" recharge areas is crucial for the overall environmental health of our state and extremely important to efforts which ensure a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as "excellent" and "good" recharge areas adversely impacts the future prospects for agriculture in Delaware.

The project location shares its northwestern boundary with the Albertson Agricultural District. The following 50 and 300 square foot restriction will apply to the Winterberry Woods subdivision, if recorded.

Please see Delaware Code Title 3, Chapter 9, Subchapter II, Section 910.

§ 910. Agricultural use protections.

(a) Normal agricultural uses and activities conducted in a lawful manner are preferred and priority uses and activities in Agricultural Preservation Districts. In order to establish and maintain a preference and priority for such normal agricultural uses and activities and avert and negate complaints arising from normal noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations, land use adjacent to Agricultural Preservation Districts shall be subject to the following restrictions:

(1) For any new subdivision development located in whole or in part within 300 feet of the boundary of an Agricultural Preservation District, the owner of the development shall provide in the deed restrictions and any leases or agreements of sale for any residential lot or dwelling unit the following notice:

This property is located in the vicinity of an established Agricultural Preservation District in which normal agricultural uses and activities have been

afforded the highest priority use status. It can be anticipated that such agricultural uses and activities may now or in the future involve noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations. The use and enjoyment of this property is expressly conditioned on acceptance of any annoyance or inconvenience which may result from such normal agricultural uses and activities."

(2) For any new subdivision development located in whole or in part within 50 feet of the boundary of an Agricultural Preservation District, no improvement requiring an occupancy approval shall be constructed within 50 feet of the boundary of the Agricultural Preservation District.

(b) Normal agricultural uses and activities conducted in accordance with good husbandry and best management practices in Agricultural Preservation Districts shall be deemed protected actions and not subject to any claim or complaint of nuisance, including any such claims under any existing or future county or municipal code or ordinance. In the event a formal complaint alleging nuisance related to normal agricultural uses and activities is filed against an owner of lands located in an Agricultural Preservation District, such owner, upon prevailing in any such action, shall be entitled to recover reasonably incurred costs and expenses related to the defense of any such action, including reasonable attorney's fees (68 Del. Laws, c. 118, § 2.).

Public Service Commission - Contact: Andrea Maucher 739-4247

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

Project is not within a certificated service territory for any water provider. Should water services be desired, the utility would need to apply to the Commission for a CPCN.

Project is not within a certificated service territory for any wastewater provider. Should wastewater services be desired and are unavailable from a governmental entity, the utility may need to apply to the Commission for a CPCN.

Delaware State Housing Authority – Contact Jimmy Atkins 739-4263

This proposal is to develop 162 units on 166 acres located on the northwest side of the intersection of Almshouse and Thicket Roads, west of Camden. According to the State Strategies Map, the proposal is located in Investment Level 4 area. As a general planning

practice, DSHA encourages residential development only in areas where residents will have proximity to services, markets, and employment opportunities, such as Investment

Level 1 and 2 areas outlined in the State Strategies Map. Since, the proposal is located in an area targeted for agricultural and natural resource protection, and therefore inconsistent with where the State would like to see new residential development, DSHA does not support this proposal.

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

Sincerely,

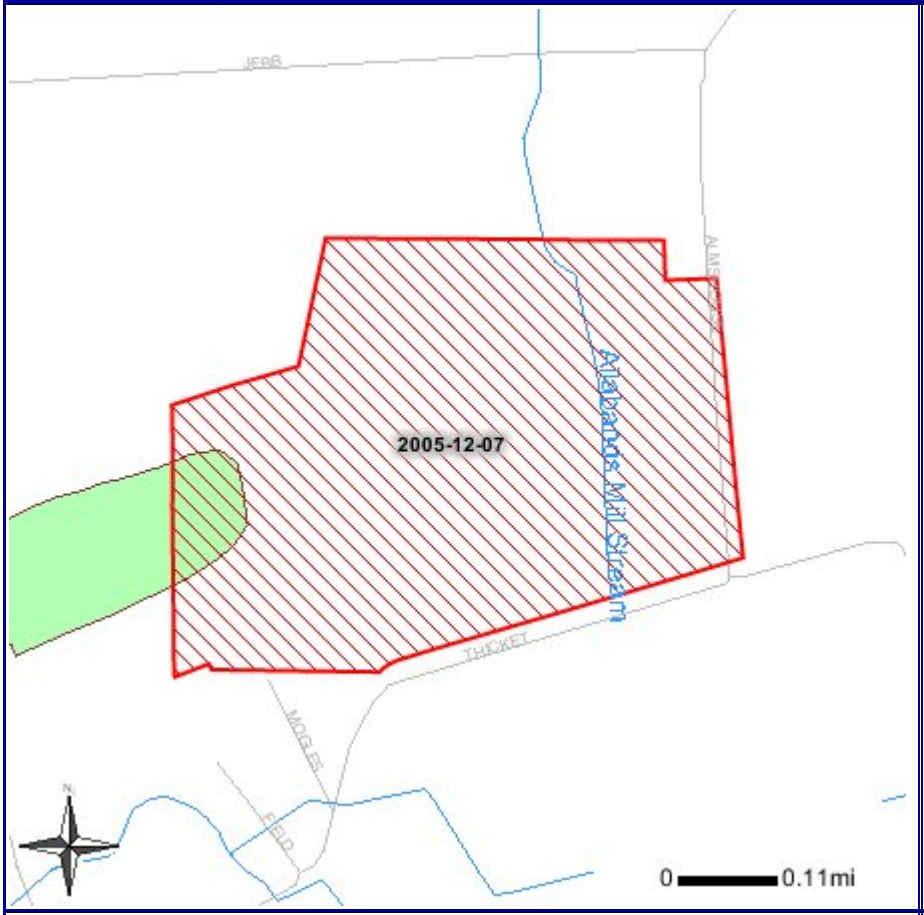
Constance C. Holland, AICP
Director

CC: Kent County
Camden / Wyoming Sewer and Water Authority

Attachment: WRPA map

Winterberry Woods

2005-12-07



PLUS Projects
NHDFlowLine
All Roads
Excellent Recharge Areas

This map was produced by the Delaware
Department of Natural Resources and Environmental Control.